CONTENTS OF *SOIL & TILLAGE RESEARCH*, VOLUME 13

VOL. 13 NO. 1 JANUARY 1989

Vertical stress distribution under tractor wheeling in a partially deep loosened Typic Paleustalf
J. Blackwell, N.S. Jayawardane, R. White (Griffith, N.S.W., Australia) R. Horn (Kiel, F.R.G.) and P.S. Blackwell (Canberra, A.C.T., Australia) 1
Formation of new aggregates under laboratory-simulated field conditions
R. Terpstra (Wageningen, The Netherlands) 13
Penetration of soil aggregates of finite size. III. Wetting-drying and aggregate confinement effects on the penetrometer pressure
R.K. Misra (Creswick, Vic., Australia) 23
Soil compaction associated with tillage treatments for soybean
L. Vazquez (General Terán, Mexico), D.L. Myhre, R.N. Gallaher, E.A. Hanlon and K.M. Portier (Gainesville, FL, U.S.A.) 35
Effect of soil compaction and irrigation interval on the growth and yield of cowpea on a Nigerian ultisol
O.E. Onofiok (Nsukka, Nigeria) 47
Variation in soil properties caused by irrigation and cultivation in the central Gezira of Sudan
I.M. Buraymah (Wad Medani, Sudan) and R. Webster (Harpenden, Gt. Britain) 57

Short Communication
Laboratory experiments on the effects of simulated tractor wheelings on linear soil erosion
G. Rauws (Leuven, Belgium) and A.V. Auzet (Strasbourg, France) 75

Technical Note
A method for analyzing penetration resistance data
N.B. Christensen (Clovis, NM, U.S.A.), J.B. Sisson and P.L. Barnes (Manhattan, KS, U.S.A.) 83

Announcements 93
Guide for Authors 95

VOL. 13 NO. 2 MARCH 1989

Guest Editorial
The 1988 ISTRO Conference
W.E. Larson (St. Paul, MN, U.S.A.) i

Packing of sands — a review
K.P. Panayiotopoulos (Thessaloniki, Greece) 101
Stress field in soil owing to tillage tool interaction
C.P. Gupta and T. Surendranath (Bangkok, Thailand) 123
Compaction and shading effects on surface cracking in a Vertisol
K.L. Srivastava, G.D. Smith and L.S. Jangawad (Andhra Pradesh, India) 151
Effect of tillage on aggregate strength and aggregation of Vertisols
K.Y. Chan (Rydalmere, N.S.W., Australia) 163

ISTRO-INFO 177
Reading Table 223

VOL. 13 NO. 3 APRIL 1989

Conventional and reduced tillage in Hungary — a review
M. Birkás, J. Antal and I. Dorogi (Gödöllö, Hungary) 233
Dynamics of soil aggregation in an irrigated desert loess
R. Horn and A.R. Dexter (Kiel, F.R.G.) 253
Effects of subsoil loosening and irrigation on soil physical properties, root distribution and water uptake of potatoes (*Solanum tuberosum*)
C.J. Parker, M.K.V. Carr, N.J. Jarvis, M.T.B. Evans and V.H. Lee (Bedford, Gt. Britain) 267
Friability of a hardsetting soil under different tillage and land use practices
K.Y. Chan (Rydalmere, N.S.W., Australia) 287
Investigation of soil degradation by means of an opto-electronic microreliefmeter
M.F. Destain, C. Roisin, M. Frankinet (Gembloux, Belgium) and G. Descornet (Bruxelles, Belgium) 299
Tillage energy requirements in interior Alaska
R.F. Cullum (Fairbanks, AK, U.S.A.), W.D. Graham and L.D. Gaultney (West Lafayette, IN, U.S.A.) 317

Book Review
Effects of conservation tillage on groundwater quality 329

VOL. 13 NO. 4 MAY 1989

Cultivation and nitrogen requirements for continuous winter barley on a gleysol and a cambisol
B.C. Ball, R.W. Lang, M.F. O'Sullivan (Midlothian, Gt. Britain) and M.F. Franklin (Aberdeen, Gt. Britain) 333
The effect of speed of wheeling on soil stresses, rut depth and soil physical properties in an ameliorated red-brown earth
R. Horn (Kiel, F.R.G.), P.S. Blackwell (Canberra, A.C.T., Australia) and R. White (Griffith, N.S.W., Australia) 353
Hard-setting behaviour of some structurally weak tropical soils
G.J. Ley (Mbeya, Tanzania), C.E. Mullins (Aberdeen, Gt. Britain) and R. Lal (Columbus, OH, U.S.A.) 365
Estimation of density–moisture–stress functions from uniaxial compression of unsaturated, structured soils
R.A. McBride (Guelph, Ont., Canada) 383
The effect of machinery traffic on the physical properties of a sandy loam soil and on the yield of sorghum in north-eastern Nigeria
J.O. Ohu and O.A. Folorunso (Maiduguri, Nigeria) 399

Short Communication
Effects of tillage depth on infiltration characteristics of two Bangladesh soils having ploughpans
S.M. Rahman and A. Islam (Dhaka, Bangladesh) 407

Author Index 413